



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/693,638

10/24/2003

Young-Soo Han

CHAES7.002CP1

8880

20995

7590

02/16/2006

KNOBBE MARTENS OLSON & BEAR LLP  
2040 MAIN STREET  
FOURTEENTH FLOOR  
IRVINE, CA 92614

EXAMINER

LE, DANH C

ART UNIT

PAPER NUMBER

2683

DATE MAILED: 02/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/693,638

Applicant(s)

HAN, YOUNG-SOO

Examiner

DANH C. LE

Art Unit

2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/12/04, 03/19/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on 11/12/04 and 3/19/04 have been considered by the examiner and made of record in the application file.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 33-51 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 33-51, these claims are method claims which are dependent on apparatus claims.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.1301,'6).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(6).

3. Claims 1-52 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-25, respectively of U.S. Patent No. 6,085,387. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-25 of the U.S. Patent No. 6,085,387 encompass claims 1-52 of the present application.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. **Claims 1-32, 52 are rejected under 35 U.S.C. 102(a) as being anticipated by Yi (US 6,292,980).**

As to claim 1, Yi teaches a hinge for use with an electronic device (figure 5, 13), the hinge comprising:

a cam comprising a cam surface and at least two stop surfaces formed therein;

a cam follower comprising at least one cam following tip arranged to contact the cam surface;

a resilient member arranged to provide a force to urge the cam and the cam follower toward each other, thereby maintaining the contact between the cam follower and the cam;

wherein one of the cam and the cam follower is rotatable about an axis, while the other is substantially non-rotatable about the axis;

wherein the cam surface comprises an area configured such that contacting the area by the at least one cam following tip causes a spontaneous rotational movement of the rotatable member about the axis in a rotational direction; and

wherein each stop surface is configured such that contacting the stop surface by the at least one cam following tip causes to stop the spontaneous rotational movement.

As to claim 2, Yi teaches the hinge of Claim 1, further comprising a housing configured to at least partially enclose the cam, the cam follower and the resilient member (figure 5, 13).

As to claim 3, Yi teaches the hinge of Claim 2, wherein the rotational member is rotatable relative to the housing (figure 5, 13).

As to claim 4, Yi teaches the hinge of Claim 2, wherein the rotational member has a part protruding outside the housing, and wherein the protruding part is configured to be engaged with a piece of an electronic device (figure 5, 6).

As to claim 5, Yi teaches the hinge of Claim 1, further comprising a housing engaged with the non-rotatable member (figure 5, 6).

As to claim 6, Yi teaches the hinge of Claim 1, wherein the cam is the non-rotatable member, and wherein the cam follower is the rotatable member (figure 5).

As to claim 7, Yi teaches the hinge of Claim 1, wherein the cam surface is waving with reference to an imaginary plane perpendicular to the axis (figure 5).

As to claim 8, Yi teaches the hinge of Claim 1, wherein the at least one cam following tip is configured to move on the cam surface along a substantially closed path (figure 5).

As to claim 9, Yi teaches the hinge of Claim 1, wherein the cam surface comprises an area that does not cause a spontaneous rotational movement of the rotatable member (figure 5).

As to claim 10, Yi teaches the hinge of Claim 1, wherein the spontaneous rotational movement is for a rotational angle about the axis at least about 20 (col.10, line 61-col.11, line 34).

As to claim 11, Yi teaches the hinge of Claim 1, wherein the spontaneous rotational movement is for a rotational angle about the axis at least about 50 (col.10, line 61-col.11, line 34).

As to claim 12, Yi teaches the hinge of Claim 1, wherein the spontaneous rotational movement is for a rotational angle about the axis at least about 100 (col.10, line 61-col.11, line 34).

As to claim 13, Yi teaches the hinge of Claim 1, wherein the cam surface and the at least one cam following tip are arranged such that a rotational movement of the rotatable member about the axis causes a linear movement of the non-rotatable member along the axis.

As to claim 14, Yi teaches the hinge of Claim 1, wherein the cam surface is configured such that a forced rotational movement of the rotatable member about the

axis beyond a predetermined point causes a spontaneous rotational movement of the rotatable member about the axis in the same rotational direction (figure 5).

As to claim 15, Yi teaches the hinge of Claim 1, wherein the cam surface is configured such that a forced rotational movement of the rotatable member about the axis in a rotational direction up to less than a predetermined point causes a spontaneous rotational movement of the rotatable member about the axis in a rotational direction opposite to the forced rotational movement (figure 5).

As to claim 16, Yi teaches the hinge of Claim 1, wherein the cam surface comprises at least two sloped surfaces, which are sloped with reference to one another, wherein two of the at least two sloped surfaces meet and form at least one valley or peak along where the two sloped surfaces meet (figure 5).

As to claim 17, Yi teaches the hinge of Claim 1, wherein the at least one valley constitutes one Of the at least two stop surfaces (figure 5).

As to claim 18, Yi teaches the hinge of Claim 1, wherein one of the at least two stop surfaces is located on an area of the at least two sloped surfaces, and wherein the area does not constitute the at least one valley or peak (figure 5).

As to claim 19, Yi teaches the hinge of Claim 1, wherein one the at least two stop surfaces comprises a groove formed in the cam surface (figure 5).

As to claim 20, Yi teaches the hinge of Claim 1, wherein one of the at least two stop surfaces comprises a bump formed on the cam surface (figure 5).

As to claim 21, Yi teaches the hinge of Claim 1, wherein one of the at least two stop surfaces is configured to receive the at least one cam following tip (figure 5).

As to claim 22, Yi teaches the hinge of Claim 1, wherein each stop surface is further configured to substantially maintain relative positions of the cam and the cam follower (figure 5).

As to claim 23, Yi teaches the hinge of Claim 1, wherein each stop surface is formed along a trajectory of at least one cam following tip (figure 5).

As to claim 24, Yi teaches the hinge of Claim 1, wherein each stop surface is configured to substantially block movement of the at least one cam following tip along a path thereof on the cam surface (figure 5).

As to claim 25, Yi teaches the hinge of Claim 1, wherein each stop surface comprises a threshold over which the at least one cam following tip is configured to move.

As to claim 26, Yi teaches the hinge of Claim 1, wherein the cam and the cam follower are configured such that the at least one cam following tip moves along a substantially closed path as the rotatable member rotates 360° about the axis (col.10, line 61-col.11, line 34).

As to claim 27, Yi teaches the hinge of Claim 1, wherein the cam surface comprises at least one peak along a closed path about the axis (figure 5).

As to claim 28, Yi teaches the hinge of Claim 1, wherein the cam surface comprises a closed contour surface around the axis, and wherein the closed contour surface comprises at least two uphill and at least two downhill (figure 5).



As to claim 29 Yi teaches the hinge of Claim 1, further comprising a guide hole and a guide rod, wherein the guide hole is formed along the axis in either of the cam and the cam follower, wherein the guide rod extends from the other of the cam and the cam follower, and wherein the guide rod is configured to be inserted in the guide hole (figure 5).

As to claim 30, Yi teaches the hinge of Claim 1, wherein the cam follower comprises two protrusions positioned substantially diametrically with respect to the axis and extending toward the cam surface, and wherein a distal end of each protrusion constitutes the at least one cam following tip (figure 5).

As to claim 31, Yi teaches the hinge of Claim 1, wherein each cam following tip is configured such that a point of the contact of the cam following tip with the cam surface moves as the cam and the cam follower moves relative to each other (figure 5).

As to claim 32, Yi teaches the hinge of Claim 1, further comprising an adapter configured to engaged with the rotatable member and further configured to engage with an electronic device (figure 5).

As to claim 52, Yi teaches the hinge for use with an electronic device (figure 5, 13), the hinge comprising:

- a cam comprising a cam surface;

- a cam follower comprising at least one cam following tip arranged to contact the cam surface;

a resilient member arranged to provide a force to urge the cam and the cam follower toward each other, thereby maintaining the contact between the cam follower and the cam;

wherein one of the cam and the cam follower is rotatable about an axis, while the other is substantially non-rotatable about the axis; and

wherein the cam surface comprising:

means for causing the cam to spontaneously move relative to the cam follower with the force by the resilient member, and

means for stopping the spontaneous movement of the cam relative to the cam follower while allowing a further movement of the cam relative to the cam follower upon application of a sufficient external force.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- A. Oshima et al (US 6,772,481) teaches hinge assembly.
- B. Fujita (US 6,115,886) teaches hinge apparatus.
- C. Oshima et al (US 6,523,224) teaches hinge assembly with limited play.
- D. Kim (US 6,745,436) teaches hinge apparatus for portable radiophone having a multi-angle hinge cam.
- E. Jung (US 6,963,766) teaches hinge module for portable radio terminal.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANH C. LE whose telephone number is 571-272-7868. The examiner can normally be reached on 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WILLIAM TROST can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'danh', is written over a horizontal line.

February 9, 2006

DANH CONG LE  
PRIMARY EXAMINER